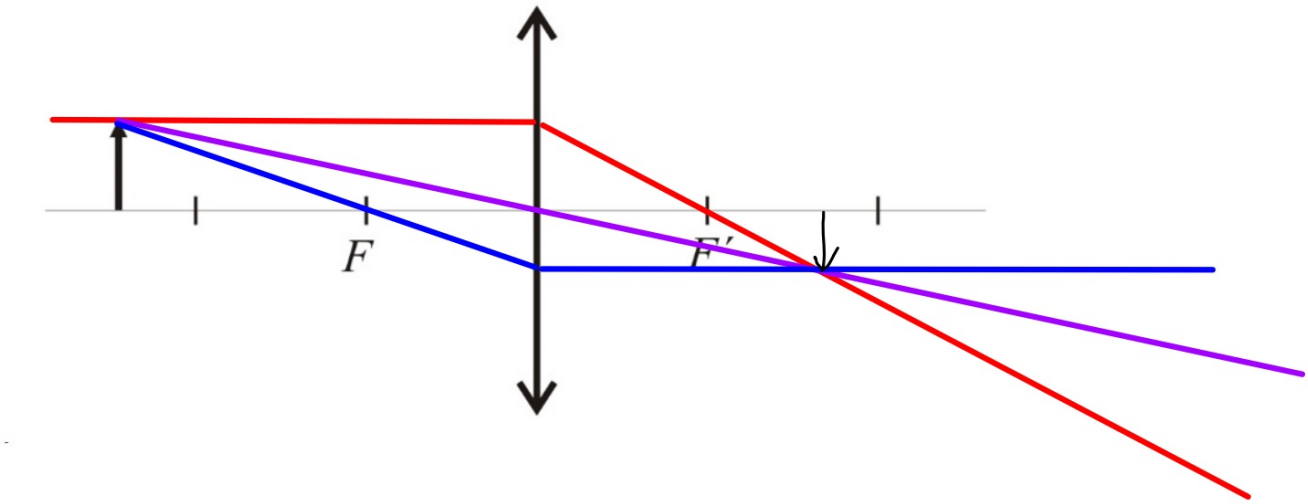
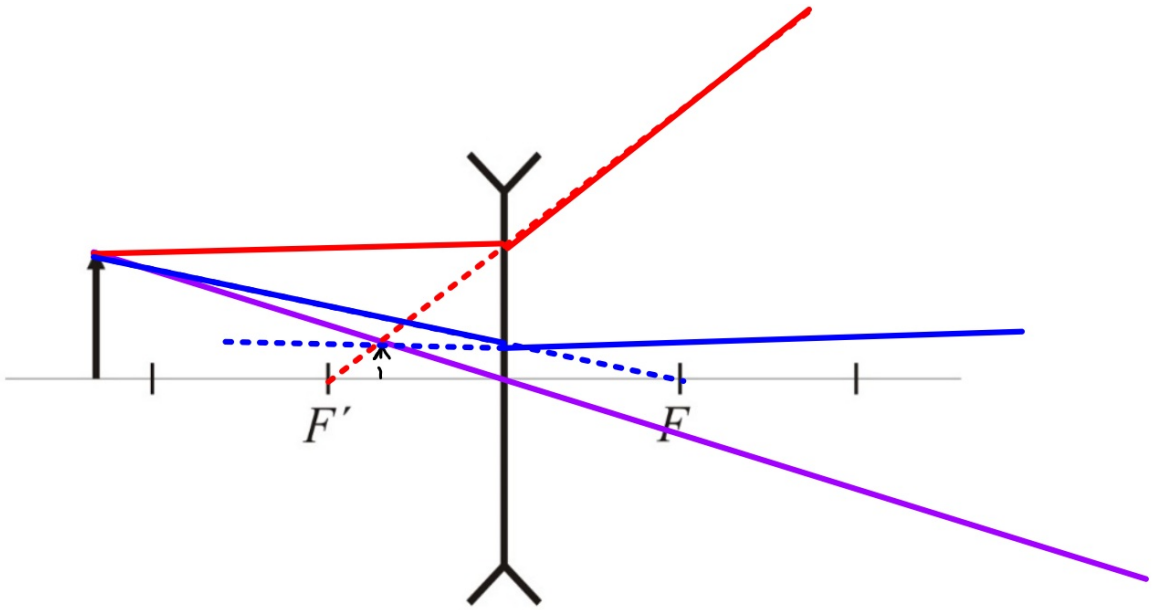

F
F′


F′
F

Coulombův zákon

- všechna nabitá tělesa na sebe působí elektrickou silou

$$F_e = \frac{1}{4\pi\varepsilon_0\varepsilon_r}\,\frac{Q_1 \cdot Q_2}{r^2}$$

$\varepsilon_0 = 8{,}85 \cdot 10^{-12}\ C^2 m^{-2} N^{-1}$
permitivita vakua

ε_r ... relativní permitivita

$\varepsilon_r = 1$ vzduch, vakuum

$$\frac{1}{4\pi\varepsilon_0\varepsilon_r} = \frac{1}{4\pi \cdot 8{,}85 \cdot 10^{-12} \cdot 1} \doteq 9 \cdot 10^9 \, N m^2 C^{-2} = k$$

$$F_e = k \frac{Q_1 \cdot Q_2}{r^2}$$

Coulombův zákon pro vzduch, vakuum